

PTO 2005-5710

DE 19,615,820 ✓

Translation of German Patent Document No. 19,615,820

WO 00/67708

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Application Date: April 20, 1996

Publication Date: October 9, 1997

Priority Document: N/A

International Classification: A 61 J 7/7/16; A 61 k 9/68; A 23 /g 3/30, A61K

Original German Title: Zahnpflegemittel und Verfahren zu seiner Herstellung

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## DENTAL CARE PRODUCTS AND METHOD OF MANUFACTURING THE SAME

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The invention relates to a dental care product and a method for manufacturing the same.

The term "dental care products" refers to product such as toothpastes, gels, powders, mouthwash, adhesive creams, chewing gums, etc., and which are used in the care of natural or artificial teeth and which fall within the scope of oral hygiene and perform both a therapeutic as well as cosmetic functions. The purpose of dental care products is essentially to mechanically or chemically clean teeth and interstices, polishing and brightening the teeth, the prevention and treatment of tooth and gingival diseases as well as cavities, periodontal disease, and the elimination and concealment of halitosis. Tooth creams or toothpastes used today as dental care products usually contain the following ingredients:

- cleansing agents, i.e., abrasive and polishing agents used for the removal of plaque and associated with the least possible removal of dentine;

- moisturizing agents such as glycerin or sorbitol to prevent the pastes from drying out;
- binding and thickening agents such a carboxymethyl cellulose or aginate to promote the viscosity and creamy consistence of pastes;
- highly dispersible silicic acid to control viscosity and, owing to its large surface, to serve as carrier for diverse active substances.

Other expanding agents, preservation agents and sweeteners such as saccharine or calcium cyclamate or the like are added to toothpastes in order to enhance flavors.

Flavoring agents, such as peppermint oil or fruit flavors, are also added to toothpaste for children in order to enhance their taste, while special active ingredients, such as sodium fluorophosphates and quaternary ammonium fluorides, serve to prevent cavities.

All of these substances contained in dental care products promote either directly or indirectly oral and dental hygiene and are modified accordingly.

It is the object of the invention to provide a dental care product and a method for manufacturing the same, which performs functions that go beyond the aforementioned field of application.

The objective is attained with a dental care product containing ingredients that can be absorbed by the oral mucosa.

These additives are nutritional supplements, hormones, homeopathic substances or drugs.

Nutritional supplements are primarily, minerals, vitamins, trace elements, and substances that are allowed to be added to foods and have specific physiologic effects on

the body. The transition to drugs is therefore changeable and subject to different legal regulations.

The invention is based on the recognition that dental care agent are used several times daily with high compliance and at regular intervals, and the oral mucosa is very suitable for absorbing substances and thus allows the transmission of substances from the mouth cavity into the blood stream.

In addition to being suitable as mouth wash, oral and dental rinses, the embodiment of the invention relates to a toothpaste.

The use of automatic toothbrushes - which may even be programmed for specific times - results in a regularly occurring brushing action of a predetermined length and intensity which usually also involves the same quantity of dental care products. This makes the tooth brushing process ideally suitable for supplying the body at regular intervals with relative precisely metered specific substances that can be absorbed by the oral mucosa. Absorption through the oral mucosa is a function of the substance that was added to the dental care product, and which is processed through the cell membranes of the oral mucosa. These transport processes, which occur by way of diffusion, carrier substances, or as co-transport, are, for the most part, well researched, and methods are known which allow empirical testing with simple methods the transmission through the oral mucosa into the blood stream.

While medications usually require precise dosages to prevent an overdose, overdosing on food supplements is, for the most part, unproblematic, and therefore does not require precise knowledge of the diffusion processes for food supplements.

The inventive dental care product is thus suitable for supplying to the human organism substances, which are administered over a long period of time, in small quantities, and are absorbed through the oral mucosa.

The invention relates particularly to dental care product additives which are intended to affect the body outside the mouth and throat region. This adds a further purpose to the dental care product in addition to the actual field of application. As a result, there is an interaction between the original purpose of the dental care product and the supplement which, on the one hand, compels the user to employ the dental care product and, on the other hand, the supplement is automatic, so to speak, because it is administered together with the dental care product.

It is especially advantageous if the supplement is tailored to a specific group of individuals.

For example, dental care products can be made for sportsmen, pregnant women, or persons at risk for a heart attack. For example, a toothpaste for sportsmen may balance the minerals lost during perspiration. The toothpaste for pregnant women is made to meet the iron or calcium requirements during pregnancy, while the toothpaste for the manager at risk for a heart attack is provided with supplements that may prevent a heart infarction.

The addition of substances may also be accomplished through mouthwash or through denture adhesive creams as well as all products used for oral and dental hygiene.

Another option for selecting the supplement or supplements provides for the supplement to be limited to a predetermined time. For example, a special toothpaste to be used in the morning may be provided with an energizing substance such as caffeine;

and a toothpaste to be used in the evening may contain a specific sleep-inducing substance.

Moreover, different toothpastes may be used as a function of the seasons. In this case, toothpaste for the winter may contain vitamin C supplements to prevent colds, and summer toothpaste may contain special vitamins, which reduce the risk of sunburn.

The inventive method for manufacturing a dental care product provides for a food supplemental product or medication to be added during the manufacturing process, with the supplement being absorbable by the oral mucosa. The composition of conventional dental care products can be varied in different ways by adding different supplements in order to make the dental care product available to special groups of consumers, not only to address the health of their teeth, but also to discover other uses.

The invention is not only limited to a dental care products, but also relates to medicated chewing gums and other types of chewing gums. The inventive chewing gums contain food supplements or medications, which allow the chewing gum to have a special physiologic effect. Dental care products and chewing gums are considered to be within the scope of the present invention, even if the effect of the chewing gum on teeth is controversial or has no detectable effect on teeth.

Beyond the conventional advantage of dental care products, chewing gum has the advantage that the saliva produced in chewing is swallowed. This causes the substances released from the chewing gum to be absorbed by the oral mucosa and/or to be mixed with the saliva and to be absorbed by the stomach and intestinal tract.

The inventive method is also to be used in the manufacturing process of chewing gum, since a food supplement or medication can be added during the manufacturing process of chewing gum.

Thus, a secondary use is superimposed on the known primary use of conventional dental care products and chewing gum, which may be varied with the type of substance that is being added.

Given the different versions, and the simple manufacturing process of the inventive dental care products and inventive chewing gums, an exemplary embodiment can be dispensed with.

#### CLAIMS

1. Dental care products, characterized in that said products contain additives, which can be absorbed by the oral mucosa.
2. Dental care products, characterized in that the said products contain food supplements, hormones, homeopathic additives or medication.
3. Dental care product as defined in Claim 1, characterized in that the supplement is intended to have an effect on the body, more particularly outside the mouth and throat region.
4. Dental care products as defined in one of the preceding Claims, characterized in that the supplement targets a specific group of consumers.
5. Dental care product as defined in one of the preceding Claims, characterized in that the supplement is intended for a limited time of application.
6. Dental care products as defined in one of the preceding Claims, characterized in that said product is a chewing gum.

7. Method for manufacturing a dental care product, characterized in that a substance capable of being absorbed by the oral mucosa is added to the dental care product during the manufacturing process of the same.

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US Patent and Trademark Office - August 19, 2005